UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,159	03/01/2004	Giuseppe De Fabbrizio	2002-0355	9973

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03/01/2004</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☒ Claim(s) <u>9 and 12-13</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>01 March 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>03/01/2004</u>.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Specification

1.   The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

2.   The disclosure is objected to because of the following informalities:

*   On Page 4, the specification makes a reference to "DM," which is not yet defined within the specification. This notation is further used throughout the specification with no definition given. For the purposes of examination, it is assumed that "DM" refers to "dialog manager."

Appropriate correction is required.

Claim Objections

3.   **Claims 12-13** are objected to because of the following informalities:

*   **claim 12** should read, "...further comprising implementing a local context within a dialog data file <u>associated</u> [associate] with the dialog manager."

*   the preamble of **claim 13** should read, "A method of generating a dialog manager for use in a spoken dialog service, <u>the</u> dialog manager supporting context shifts in a spoken dialog..."

Appropriate correction is required.

4.   **Claim 9** is objected to under 37 CFR 1.75(c), as being of improper dependent

form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form.

Regarding **claim 9**, a limitation of base **claim 8** requires that the "available

reusable subdialogs" are recursive transition network flow controllers. **Claim 9** requires

that the "available reusable subdialogs" are rule-based flow controllers. In the broadest

reasonable interpretation of this claim, one of ordinary skill in the art at the time the

invention was made could consider "recursive transition network flow controllers" to be a

subset of "rule-based flow controllers." Therefore, **claim 9** does not properly provide

further limitation of **claim 8**.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   **Claims 1** and **12-20** are rejected under 35 U.S.C. 102(b) as being anticipated by

US Patent Application 2002/0198719 hereinafter referred to as Gergic.

Regarding **claim 1**, Gergic discloses a method of generating a dialog manager for a spoken dialog service comprising:

- selecting a top level flow controller (Page 2, paragraph 0017; Page 2, paragraph 0021; Claim 1);

- selecting available reusable subdialogs below the top level flow controller which are isolated from application dependencies (Page 3, paragraph 0045; Page 20, paragraph 0069; Claim 1);

- developing a subdialog for each application part not having an available subdialogs (Page 2, paragraph 0015-0016; Page 3, paragraph 0045; Page 20, paragraph 0069; Claim 1); and

- testing and deploying the spoken dialog service, wherein the top level flow controller, reusable subdialogs, and developed subdialogs interact independent of their decision model (Page 25, paragraphs 00132-133).

Though Gergic does not specifically teach the act of testing and deploying the system for use, the examiner contends that this is known as standard practice for the development of any invention and as such is considered an inherent part of the method.

Regarding **claim 12**, Gergic discloses all limitations of **claim 1** as applied above, and further discloses a local context within a dialog data file associated with the dialog manager (Page 24, paragraph 0124; Page 25, paragraph 0140; Page 25, paragraph 0143).

Though Gergic does not explicitly disclose the local context of data files with the dialog manager, this is an inherent feature of an apparatus that can discriminate incoming data amongst subdialogs as disclosed by Gergic.

Regarding **claim 13**, Gergic discloses a method of generating a dialog manager for use in a spoken dialog service supporting context shifts, comprising:

- selecting a top level dialog flow controller (Page 2, paragraph 0017; Page 2, paragraph 0021);

- incorporating a context shift component (Page 24, paragraphs 0124-0125);

- selecting available reusable subdialogs for being invoked by the top level flow controller, the reusable subdialogs being isolated from application dependencies (Page 2, paragraph 0015; Page 3, paragraph 0045; Page 20, paragraph 0069); and

- testing and deploying the spoken dialog service, wherein when a user of the system changes the context of the spoken dialog while in a reusable subdialog, the context shift component causes a parent dialog of the subdialog to be set to a state described by the context shift (Page 25, paragraphs 0133-0138).

Though Gergic does not specifically teach the act of testing and deploying the system for use, the examiner contends that this is known as standard practice for the development of any invention and as such is considered an inherent part of the method.

It is further noted by the examiner that the broadest reasonable interpretation of "causes a parent dialog of the subdialog to be set to a state described by the context

shift" according to one of ordinary skill in the art at the time the invention was made would include the condition of the parent dialog able to discriminate which of a set of parallel processes is applicable to input as is taught (Page 25, paragraphs 00133-0138) and further implied (Page 25, paragraph 0144) by Gergic.

Regarding **claim 14**, Gergic discloses all limitations of **claim 13** as applied above, and further discloses when a subdialog is invoked by a parent dialog, the context shift component causes the subdialog to inherit the context shifts of the parent dialog (Page 24, paragraphs 0124-0125; Page 25, paragraph 0133; Page 25, paragraph 0140).

It is noted by the examiner that the broadest reasonable interpretation of this claim by one of ordinary skill in the art at the time the invention was made includes the case where mixed initiative interaction is allowable using subdialogs having different parent dialogs as disclosed by Gergic.

Regarding **claim 15**, Gergic discloses all limitations of **claim 14** as applied above, and further discloses when a user of a the system changes the context of the spoken dialog while in a reusable subdialog, the context shift component further returns a message to the parent dialog that a context shift has occurred (Page 24, paragraphs 0124-0125; Page 25, paragraphs 0134-0138).

It is noted by the examiner that this is an inherent feature of the case where mixed initiative interaction is allowable using subdialogs having different parent dialogs as disclosed by Gergic.

Regarding claim 16, Gergic discloses all limitations of claim 14 as applied above, and further discloses that a context shift is triggered by user input and generates a state name where the shift goes (Page 24, paragraph 0123).

It is noted by the examiner that an invocation which causes the execution of a new subdialog in parallel with other dialogs as disclosed by Gergic could be reasonably interpreted by one of ordinary skill in the art at the time the invention was made to be synonymous with this claim.

Regarding claim 17, Gergic discloses all limitations of claim 13 as applied above, and further discloses that the application dependencies are part of the top level flow controller (Page 20, paragraph 0073).

It is noted by the examiner that though Gergic does not explicitly teach this limitation, it is inherent in disclosing that all dialogs may or may not include platform dependence according to the status of a supplied tag (Page 20, paragraph 0073).

It is further noted by the examiner that the broadest reasonable interpretation of the claim language neither excludes subdialogs from also having application dependencies, nor requires that any application dependencies necessarily apply to the top level flow controller.

Regarding **claim 18**, Gergic discloses all limitations of **claim 17** as applied above, and further discloses that the top level flow controller and subdialogs interact independent of their decision models (Page 25, paragraphs 0132-0133).

Regarding **claim 19**, Gergic discloses all limitations of **claim 13** as applied above, and further discloses that the generated dialog manager supports chronological shifts in dialog (Page 25, paragraphs 0132-0133; Page 25, paragraphs 0140-0143).

It is noted by the examiner that the broadest reasonable interpretation of "chronological shifts" includes a user amending or replacing the contents of a field already filled with data as disclosed by Gergic.

Regarding **claim 20**, Gergic discloses all limitations of **claim 13** as applied above, and further discloses that the generated dialog manger supports digression in the dialog (Page 25, paragraphs 0132-0133; Page 25, paragraphs 0140-0143).

It is noted by the examiner that the broadest reasonable interpretation of "digression" includes support of mixed initiative using parallel operation as disclosed by Gergic.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   **Claims 2-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gergic in further view of US Patent Application 2003/0105634 hereinafter referred to as Abella.

Regarding **claim 2**, Gergic discloses all limitations of **claim 1** as applied above, but does not adequately disclose that available reusable subdialogs are selected from a group comprising telephone number, social security number, account number, address, e-mail address and name.

Abella discloses a voice directory application that provides spoken access to information including telephone number, address, and other employee information (Page 4, paragraph 0042).

Though Abella does not explicitly teach the inclusion of social security number, account number, or e-mail address, the broadest reasonable interpretation of "employee information" as disclosed by Abella would include this data to one of ordinary skill in the art at the time the invention was made.

The two references are combinable because both teach a method and apparatus for spoken dialog management. Motivation to combine is inherent because the disclosure of Abella provides exemplary usage that is applicable to the teachings of

Gergic. Abella further provides motivation to combine in disclosing specific subdialogs that are useful as components of reusable dialog systems (Page 2, paragraph 0019).

Therefore, the examiner contend that it would have been obvious to one of ordinary skill in the art to modify the teachings of Gergic using the teachings of Abella in order to implement a reusable dialog system that takes advantage of the functional subdialogs disclosed by Abella.

It is further noted by the examiner that one of ordinary skill in the art at the time the invention was made would consider Abella's usage of "dialog motivator" to be synonymous with the current application's usage of "subdialog."

Regarding **claim 3**, Gergic in view of Abella discloses all limitations of **claim 2** as applied above, and Gergic further discloses that the reusable subdialogs manage mixed-initiative conversations with a user (Page 2, paragraph 0028; Page 25, paragraphs 0132-0133; Page 25, paragraphs 0140-0143; Claim 9).

Regarding **claim 4**, Gergic discloses all limitations of **claim 1** as applied above, but does not explicitly disclose that an available reusable subdialog is an input subdialog.

Abella discloses that an available reusable subdialog is an input subdialog (Fig. 3, item 106; Page 3, paragraph 0037-0038).

It is further noted by the examiner that voice input is an inherent feature of any

system of dialog management that is intended for use via spoken word, as is disclosed

by both Gergic and Abella.

Regarding **claim 5**, Gergic in view of Abella discloses all limitations of **claim 4** as

applied above, and Abella further discloses that an available reusable subdialog further

comprises a confirmation component (Page 2, paragraph 0019; Page 5, paragraph

0096-0101).

Regarding **claim 6**, Gergic in view of Abella discloses all limitations of **claim 4** as

applied above, and Abella further discloses that the reusable input subdialog handles

silence, rejection, low confidence scores, and explicit information in an input dialog with

a user (Page 5, paragraphs 0060-0065; Page 5, paragraphs 0070-0073; Page 5,

paragraphs 0091-0095).

It is noted by the examiner that the broadest reasonable interpretation of "explicit

information" includes anticipated input for proper use of the dialog system from the user.

8.   **Claims 7-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gergic in view of US Patent 5,699,456 hereinafter referred to as Brown.

Regarding **claim 7**, Gergic discloses all limitations of **claim 1** as applied above, but does not adequately disclose that the top level flow controller is a recursive transition network flow controller.

Brown discloses the use of recursive transition network controllers in a speech recognition system (Fig. 5; Col. 7, lines 21-29).

The two references are combinable because each teaches an invention relating to speech recognition control. Brown further provides motivation to combine in disclosing the usefulness of recursive transition networks in reducing the necessary size of speech recognition grammars (Col. 7, lines 21-29; Col. 7, lines 35-39). This is inherently practical in reducing data storage requirements.

Therefore, the examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Gergic with the teachings of Brown in order to implement a spoken dialog management system with a smaller minimum grammar size for the purpose of reducing data storage requirements.

Regarding **claim 8**, this claim is very similar to **claim 7** and is rejected for the same reasons.

It is noted by the examiner that there is no limitation presented by Gergic in view of Brown excluding the situation where both the top level flow controller and one or more available reusable subdialogs are recursive transition network flow controllers.

Regarding **claim** 9, Gergic in view of Brown discloses all limitations of **claim 8** as applied above, and Brown further teaches the use of rule-based flow controllers (Fig. 5; Col. 7, lines 21-29).

It is noted by the examiner that this limitation is inherently required in the limitations of **claim 8**, because the broadest reasonable interpretation of one of ordinary skill in the art at the time the invention was made could include recursive transition networks as a subset of all rule-based flow controllers.

Regarding **claim 10**, Gergic in view of Brown discloses all limitations of **claim 8** as applied above, and Gergic further discloses that at least one state in a recursive transition network flow controller has a subdialog attribute that is the name of the flow controller invoked as a subdialog (Page 4, paragraphs 0055-0056; Page 24, paragraph 0123).

Regarding **claim 11**, Gergic in view of Brown discloses all limitations of **claim 10** as applied above, and Gergic further discloses a set of instructions that retrieve values from a parent dialog and set values in the invoked subdialog (Page 4, paragraph 0056).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Monaco et al. (US Patent 6,314,402) teaches a method and apparatus for creating editable speech objects for a voice response system.

- Gorin et al. (US Patent 6,751,591) teaches a method and system for predicting understanding errors in a voice recognition system.

- Matheson et al. (US Patent 6,983,252) teaches a dialog system with multiple active states.

- Gupta et al. (US Patent 7,197,460) teaches a system for handling frequently asked questions in a dialog system.

- Jost et al. (US Patent 7,240,009) teaches a dialog control apparatus for a voice response system.

- Ehlen et al. (US Patent Application 2004/0006480) teaches a system and method of handling errors in a dialog system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Kovacek whose telephone number is (571) 270-3135. The examiner can normally be reached on M-F 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Eisen
SPE
Art Unit 2609

DMK 07/26/2007